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Lynch

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[54] **SELF SERVICE PRINT TERMINAL**

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[30] **Foreign Application Priority Data**

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[51] **Int. Cl.**[6] **G07B 1/00**; G07B 11/11

[52] **U.S. Cl.** **101/232**; 101/66

[58] **Field of Search** 101/232, 66

[56] **References Cited**

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[57] **ABSTRACT**

A self service financial print terminal **(10)** has a keypad **(14)** to input instructions; a card reader **(44)** to read a data-bearing user card; and a printer **(20)** to print a financial document such as a cheque in accordance with instructions. A correctly-printed cheque is driven by pairs of rollers **(22,24)** to a delivery slot **(18)**. An incorrectly-printed cheque is diverted by divert mechanism **(30)** to pass between a pair of print rollers **(34)** which print a stripe on the cheque in indelible security ink. The marked cheque can then be retained in a non-secure part of the terminal **(36)**.

5 Claims, 3 Drawing Sheets

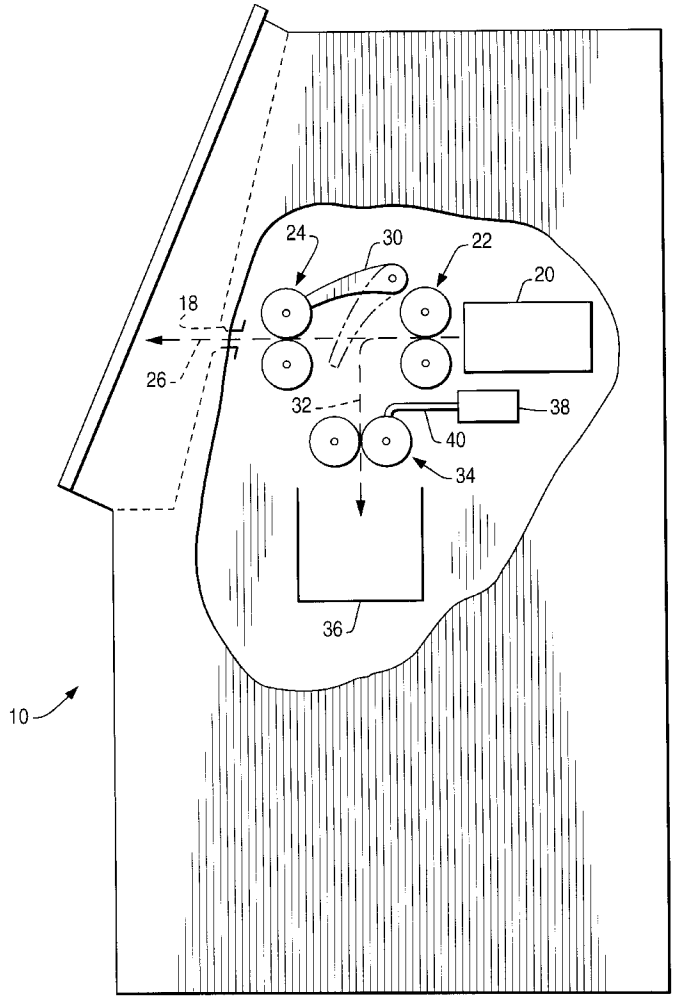


FIG. 1

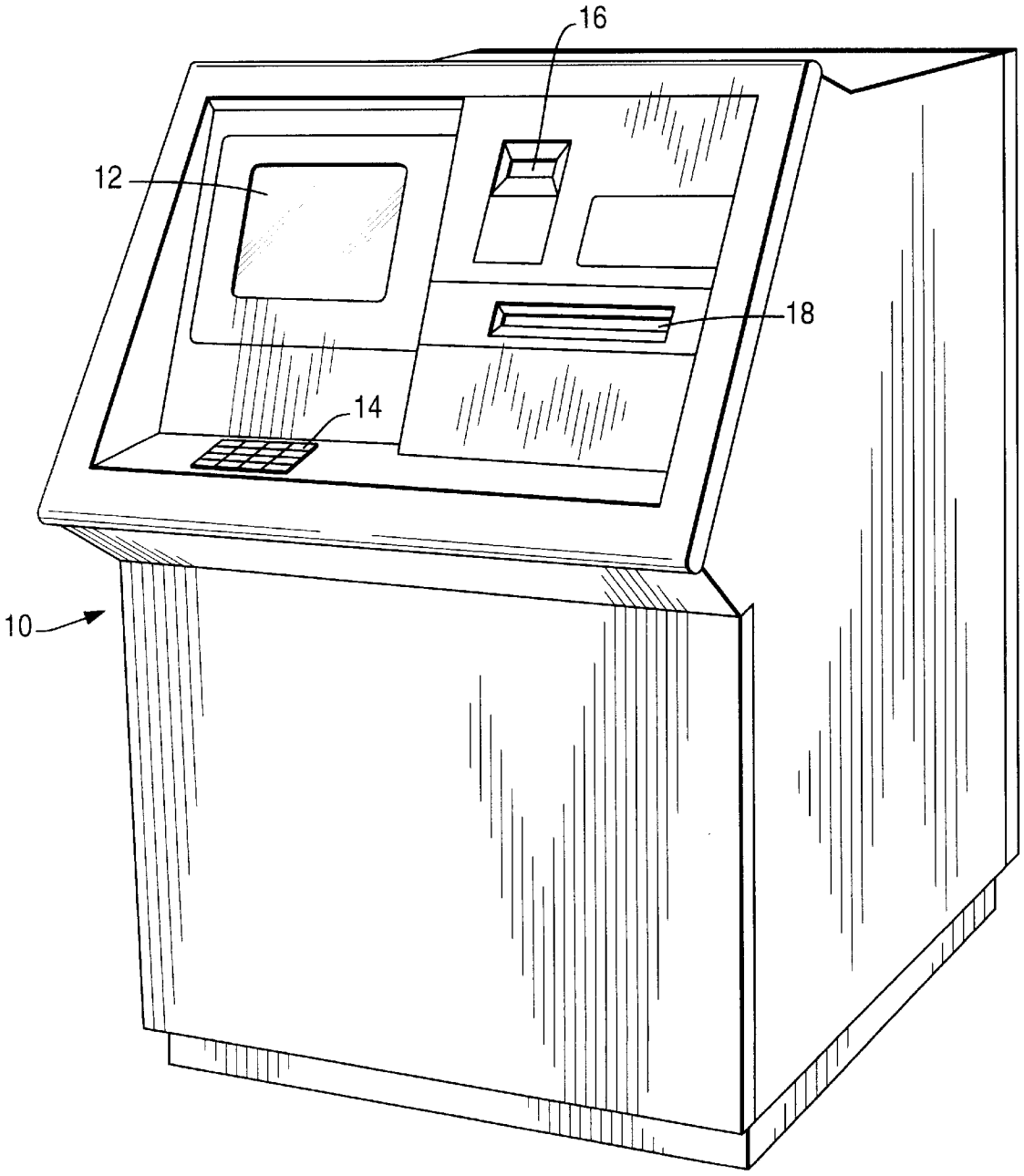


FIG. 2

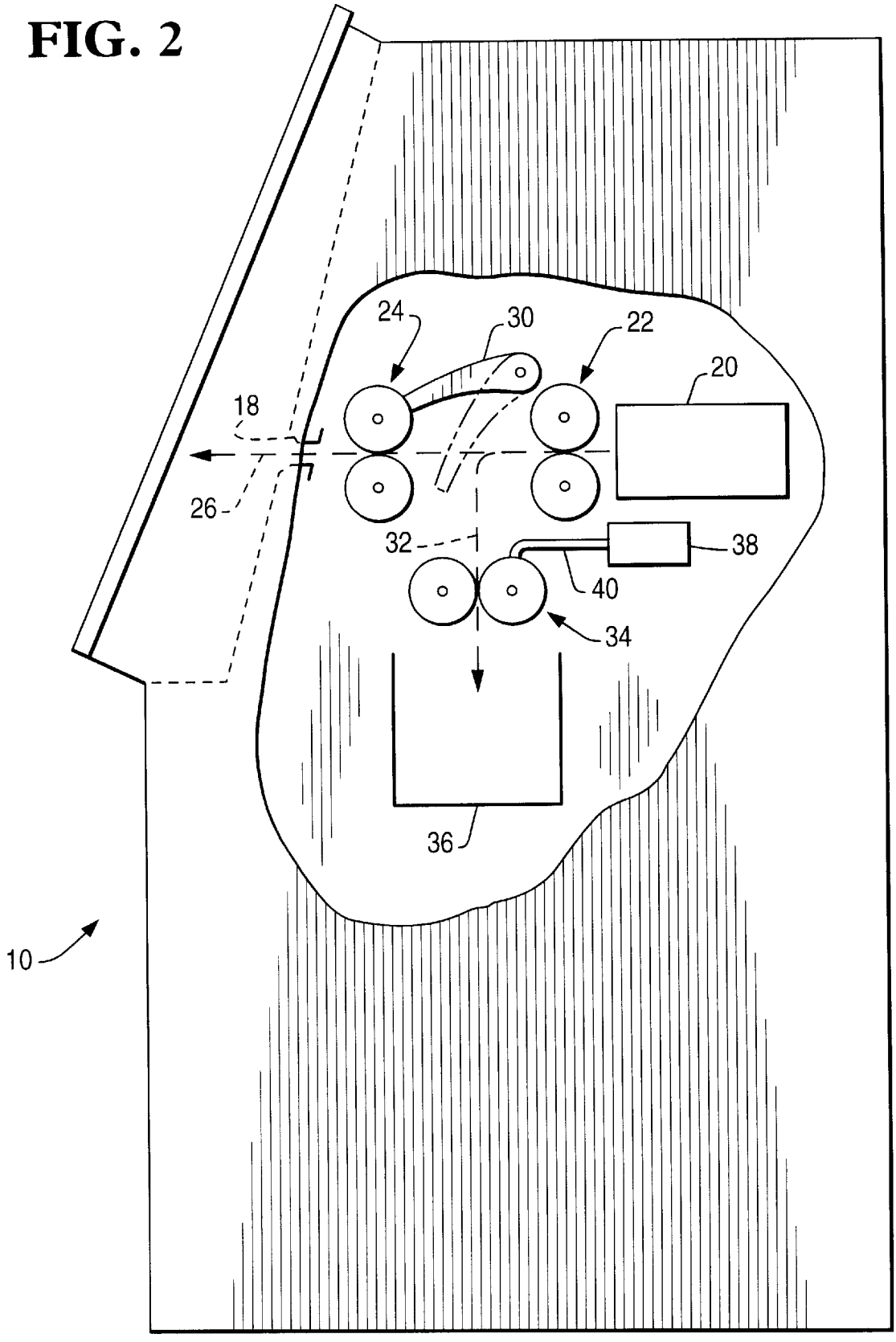
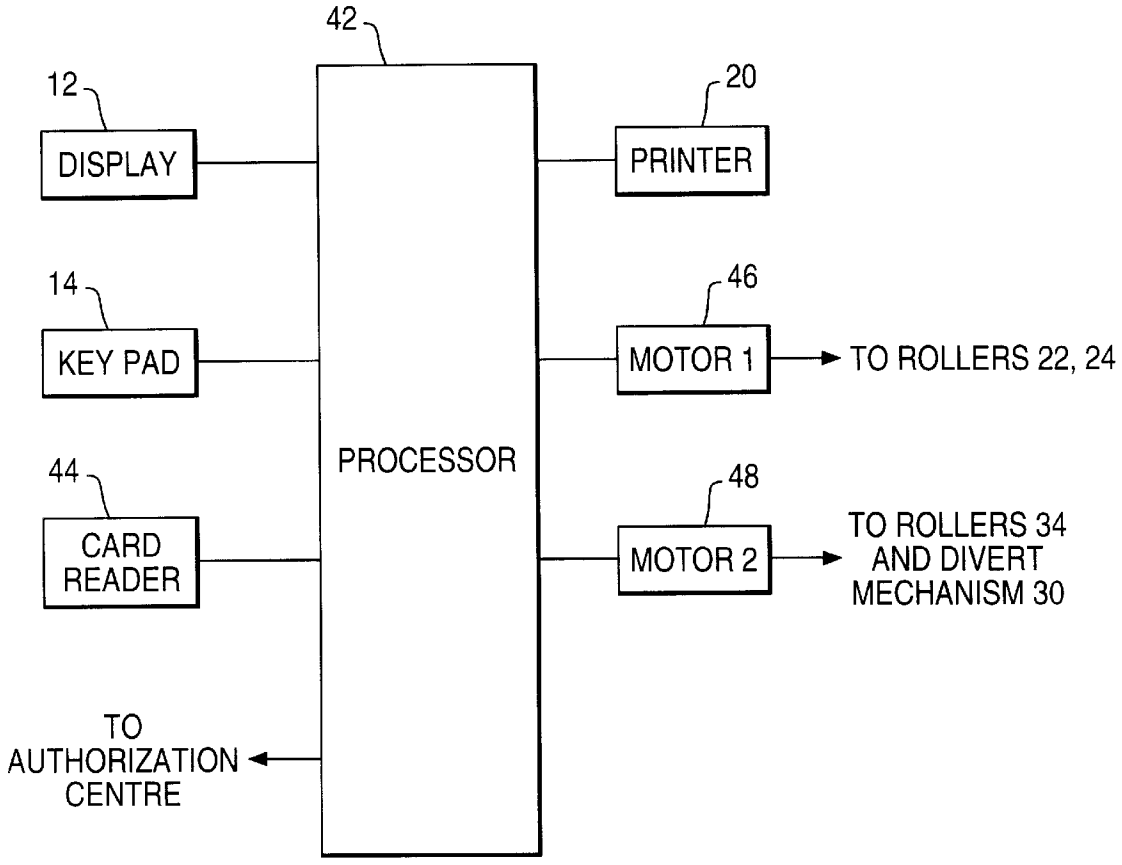


FIG. 3


42
12
DISPLAY
14
KEY PAD
44
CARD READER
PROCESSOR
TO AUTHORIZATION CENTRE
20
PRINTER
46
MOTOR 1
TO ROLLERS 22, 24
48
MOTOR 2
TO ROLLERS 34 AND DIVERT MECHANISM 30

SELF SERVICE PRINT TERMINAL

BACKGROUND OF THE INVENTION

This invention relates to a self service print terminal, especially to such a terminal which can print financial documents such as cheques.

In addition to the well known automated teller machine (ATM) which allows self service dispensing of currency notes, self service terminals are available which, in a self service transaction, print documents such as cheques, insurance cover notes, loan records, and the like. Inevitably, an error may occur in printing such documents.

SUMMARY OF THE INVENTION

It is the object of the invention to provide a self service print terminal in which documents with printing errors cannot be used fraudulently.

According to the invention there is provided a self service financial print terminal comprising input means; a card reader; and a printer to print a financial document; characterized by further print means to print on incorrectly printed documents a permanent indication of invalidity.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described by way of example only with reference to the accompanying drawings in which:

FIG. **1** is a view of a self service terminal;

FIG. **2** is a partially cut-away side view of a self service terminal; and

FIG. **3** illustrates a control system for a self service terminal.

DETAILED DESCRIPTION

In FIG. **1**, a self service financial terminal **10** has a display screen **12**, keypad **14**, user card input slot **16**, and document delivery slot **18**. In use, the user inserts a magnetically encoded card into the slot **16**, and enters a personal identity number (PIN) via the keypad **14**. After authorization of the card and PIN by the financial authority operating the terminal, the user can request, via the keypad **14**, a document such as a cheque to be printed, and delivered through the slot **18**.

FIG. **2** shows the internal operation of the terminal **10**. A printer **20** prints the cheque and outputs it to a first pair of rollers **22** which drive the cheque to a second pair of rollers **24**, which pass it through the delivery slot **18**, the cheque following the path shown by the dotted line **26**.

If however an error occurs, for example the user keys in an incorrect sum of money but does not realize this until the cheque has been printed, the user can indicate the existence of an error by the keypad **14**. In this case, a divert mechanism **30** is operated to move from its position shown by the solid line to its position shown dotted; the cheque is then diverted along the path shown by the dotted line **32** to pass between a pair of print rollers **34** into a storage container **36**. Adjacent the print rollers **34** is an ink reservoir **38** connected by tube **40** having its other end lying above one of the rollers of the pair **34**; when the cheque passes through the print rollers **34**, it is marked with a stripe along its length to show that it is invalid. The ink in the reservoir **38** is an indelible security ink of known composition.

Since the cheque printed in error is clearly and indelibly indicated as invalid, it is not necessary to retain it in a secure enclosure. The container **36** need not be in a secure capture area of the terminal **10**.

FIG. **3** shows the control arrangements for the terminal. A processor **42** is connected to the display **12**, keypad **14**, a card reader **44** behind the card input slot **16** (see FIG. **1**), and to the authorization center of the financial organization operating the terminal, and also to the printer **20**.

The processor **42** is also connected to a first motor **46**, which drives the first and second pairs of rollers **22**, **24**, and to a second motor **48**, which drives the print rollers **34** and the divert mechanism **30**.

The processor **42** accepts information from the keypad **14** and from the card reader **44**, communicates with the authorization center, and provides suitable messages on the display **12**. The processor also controls the printer **20**, and operates the motor **46** to drive the pairs of rollers **22**,**24** to provide an error-free cheque to the user. For an error-containing cheque the processor **42** operates a motor **48** to swing the divert mechanism **30** into the divert position, and to operate the print rollers **34** to print a stripe onto the invalid cheque.

What is claimed is:

1. A self-service financial terminal for producing a valuable document to be delivered to a customer at the self-service financial terminal, the self-service financial terminal comprising:

a card reader for receiving a user identifying card from a customer to verify the identity of the customer to allow the customer to gain access to services provided by the self-service terminal;

a container for storing sheets on which information is to be printed to provide valuable documents to be delivered to customers;

a first printer mechanism for printing information onto a sheet which has been transported from the container to the first printer mechanism to produce a valuable document;

a second printer mechanism for printing an indicia of invalidity onto a valuable document which has been produced at the first printer mechanism and transported from the first printer mechanism to the second printer mechanism;

an input device for receiving inputs from the customer to provide information to be printed onto a sheet which has been transported from the container to the first printer mechanism to produce a valuable document; and

a processor for (i) controlling the first printer mechanism to print information onto a sheet which has been transported from the container to the first printer mechanism in response to inputs received from the customer via the input device requesting that a valuable document be produced and delivered to the customer, and (ii) controlling the second printer mechanism to print an indicia of invalidity onto the valuable document which has been produced at the first printer mechanism and transported from the first printer mechanism to the second printer mechanism to render the valuable document invalid in response to inputs received from the customer via the input device indicating that the valuable document has incorrect information printed thereon.

2. A self-service financial terminal according to claim **1**, further comprising (i) a drive mechanism for moving a valuable document having correct information printed thereon to a slot to deliver the valuable document to a customer, and (ii) a divert mechanism for diverting a valuable document having incorrect information printed thereon

from the first printer mechanism to the second printer mechanism to allow the second printer mechanism to print an indicia of invalidity onto the valuable document to render the valuable document invalid.

3. A self-service financial terminal according to claim **1**, wherein the second printer mechanism includes a pair of print rollers and a reservoir for supplying ink to the print rollers.

4. A self-service financial terminal according to claim **3**, wherein the ink is an indelible security ink.

5. A self-service financial terminal for producing a valuable document to be delivered to a customer at the self-service financial terminal, the self-service financial terminal comprising:

a card reader for receiving a user identifying card from a customer to verify the identity of the customer to allow the customer to gain access to services provided by the self-service terminal;

a container for storing sheets on which information is to be printed to provide valuable documents to be delivered to customers;

a first printer mechanism for printing information onto a sheet which has been transported from the container to the first printer mechanism to produce a valuable document;

a second printer mechanism for printing an indicia of invalidity onto a valuable document which has been produced at the first printer mechanism and transported from the first printer mechanism to the second printer mechanism, the second printer mechanism including a pair of print rollers and a reservoir for supplying an indelible security ink to the print rollers;

a drive mechanism for moving a valuable document having correct information printed thereon to a slot to deliver the valuable document to a customer;

a divert mechanism for diverting a valuable document having incorrect information printed thereon from the first printer mechanism to the second printer mechanism to allow the print rollers of the second printer mechanism to print an indicia of invalidity using indelible security ink onto the valuable document to render the valuable document invalid;

an input device for receiving inputs from the customer to provide information to be printed onto a sheet which has been transported from the container to the first printer mechanism to produce a valuable document; and

a processor for (i) controlling the first printer mechanism to print information onto a sheet which has been transported from the container to the first printer mechanism in response to inputs received from the customer via the input device requesting that a valuable document be produced and delivered to the customer, and (ii) controlling the print rollers of the second printer mechanism to print an indicia of invalidity using indelible security ink onto the valuable document which has been produced at the first printer mechanism and transported from the first printer mechanism to the second printer mechanism to render the valuable document invalid in response to inputs received from the customer via the input device indicating that the valuable document has incorrect information printed thereon.

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